

Audiophile APS Regenerated Power Allows Audio Amplifiers to Perform to Spec.

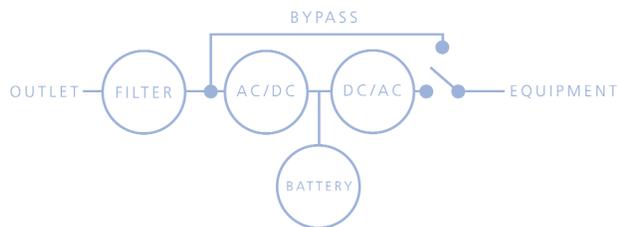
Poor power quality from the utility supply in many residential wall outlets can restrict the performance of audio equipment. Line noise is an obvious example. Removing it will prevent unwanted signals from getting into the audio output or affecting video performance.

Less understood are the effects of short and long term sags and of harmonic distortion. Sags, of course, are voltage reductions. Harmonic distortion, a very complex waveform disturbance, also has as its net effect a flat top sine wave that again reduces voltage. As voltage drops, so too does the ability to supply a power amplifier with the peak current it needs.

The Audiophile APS restores and maintains the proper sine wave and full voltage. As a result, it is able to closely match the rapidly changing current draws of the amplifier. Without the APS, the lower voltages supplied by the wall outlet can limit the current available to the amplifier and negatively affect the quality of the audio output. The improvement in sound quality delivered by the APS under these conditions is clear and dramatic.

Our double conversion design:

The utility supply from the wall outlet is filtered and surge protected. It is then converted by a rectifier circuit to a finely regulated direct current. This DC is then used by the inverter circuit to regenerate a new clean AC source. The battery module placed on the DC side ensures that no matter what happens to the utility power supply, there will be full current and voltage at the rated value to keep your components connected to an ideal pure power supply.



This double conversion technology provides a perfect barrier to power problems that might exist in the utility line. No distortions can pass through the DC intermediate circuit. No EMI, no RFI, no spikes, no high voltage transients, no damaging surges can reach your components. In fact, if it were possible for a damaging spike to get past the APS's built in surge protection system, it would still not reach your sensitive components.

The Audiophile APS maintains the accuracy of its 120 volt sine wave at a steady 60 cycles even at its full output no matter how low or high the voltage of the utility supply, so the amplifier never suffers current limits, regardless of how momentary.

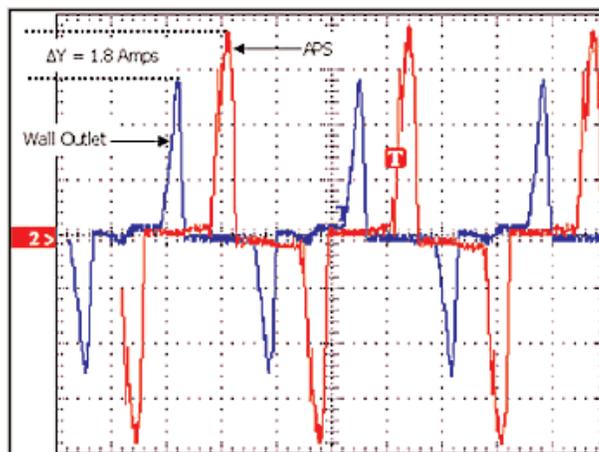


Utility supply vs. Regeneration:

Does regenerated power really give me anything that the power in my wall can't provide?

Recent testing conducted by Audiophile APS at Audio Ideas Guide magazine shows what the APS can do. The power at the wall was measured to have a lower than optimal voltage and a host of harmonic distortion at various frequencies resulting in flat topped wave forms, but reasonably good as utility supplies go. The power output of the Audiophile APS was measured showing full availability with minimal harmonics or wave form distortion.

The power requirements of a Bryston 9B SST THX 5 channel power amplifier were measured with broad spectrum pink noise input. Measurements were taken both on utility and with the addition of the APS. Without the pure power of the APS, the amplifier could not draw the current it was asking for. The addition of the APS increased the power draw of the Bryston by almost 2 amps. The measurements also showed marked reduction in total voltage distortion and the ability to match the needs of the equipment. This is achieved without the overwhelming overhead of some other regeneration technologies - the Audiophile APS has an energy efficiency of up to 92%!



Load Current Comparison
 APS (Red) vs. Outlet (Blue)
 Vertical: 2Amps/Div – Horizontal: 5ms/Div

Parameter	Wall Outlet	APS Power	Comments
RMS Voltage (volts)	118.00	119.00	The APS provided better voltage regulation compared to the available untreated power.
Peak Voltage (volts)	160.00	162.00	The APS showed less flat topping in the presence of the load's high current peaks.
Pk-Pk Voltage (volts)	326.00	336.00	
RMS Current (amps)	1.41	1.67	The untreated power supply could not provide the full RMS and Peak current demanded by the load. (Bryston 9B SST)
Peak Current (amps)	3.88	5.60	
Current THD (%)	106.71	121.36	The Current THD at the output of the APS is higher because it did not limit the current harmonics demanded by the load. (Bryston 9B SST)

